

ABSTRACT

The present invention relates to a method, apparatus, and system to formulate regions of reusable instructions. The method includes selecting initial regions. The method further includes computing $UEU(E,R)$ and

5 $DED(X,R)$, wherein $UEU(E,R)$ represents a number of upward exposed registers at a main entry E of a region R that are used in the region R and $DED(X,R)$ represents a number of downward exposed registers at a main exit X of the region R that are defined in the region R . The method also includes applying code motion. The method additionally includes applying tail

10 duplication.